

Fig. 1

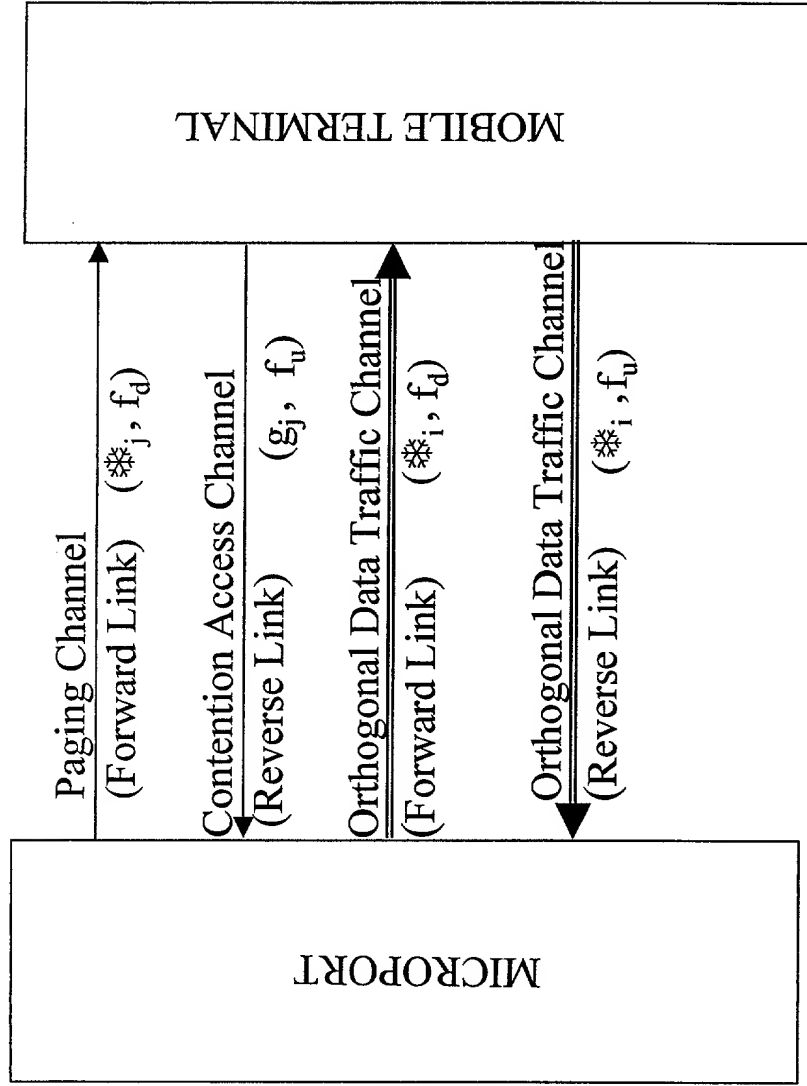


Fig. 2

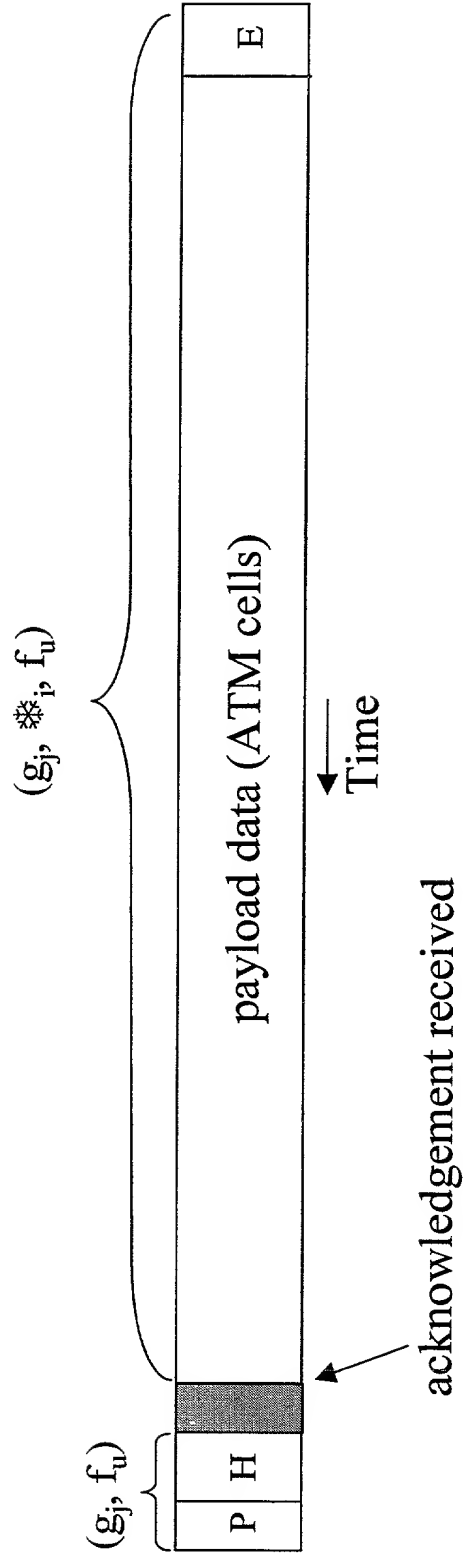


Fig. 3a

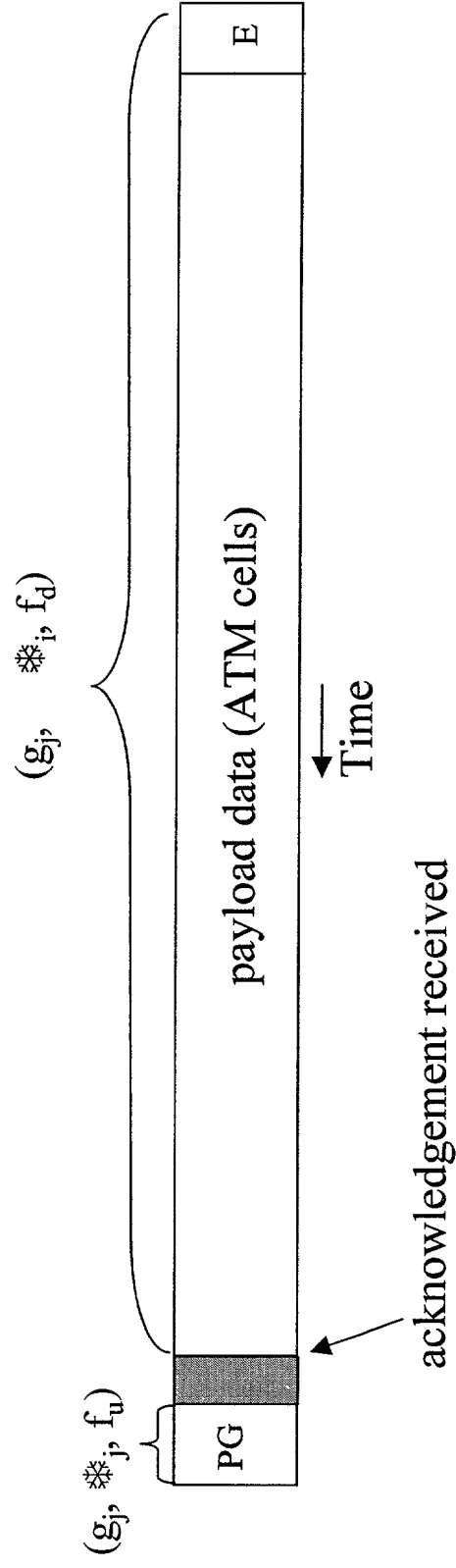


Fig. 3b

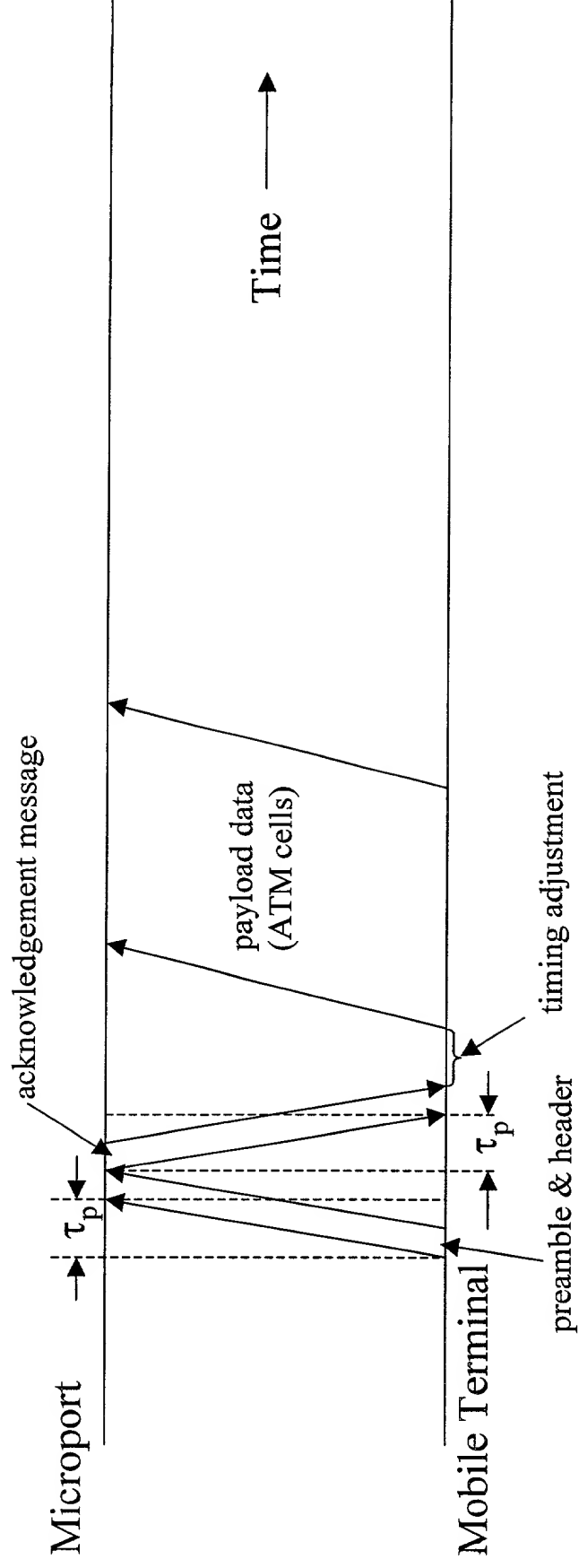


Fig. 4a

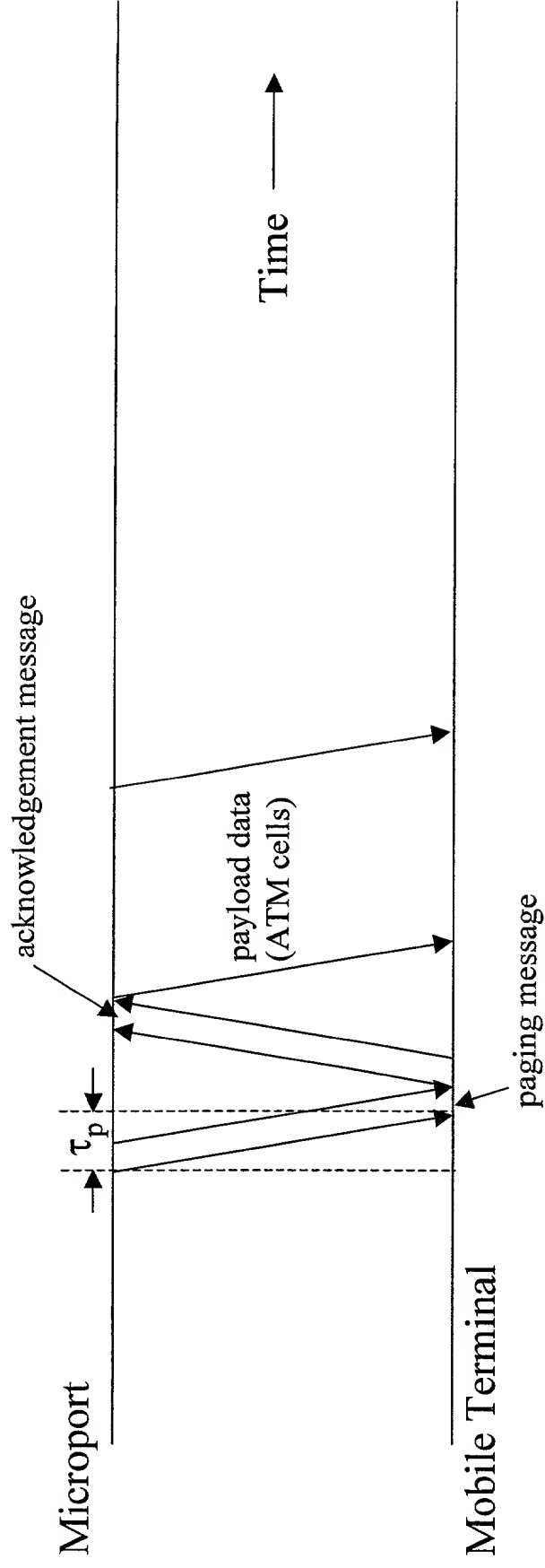


Fig. 4b

START

The mobile subscriber terminal transmits a preamble signal spread by a PN-code g_j (identifying the microport) and "marks" the point of the time origin. Following the preamble, a few bits of data are transmitted that identify the transmitting mobile user. This constitutes the packet header and is also spread by the PN-code g_j .

After an acknowledgement is received within time out period, the mobile subscriber terminal spreads the information and data (i.e., ATM cell) by both the assigned orthogonal code (contained in the acknowledgement) and the PN-code. The mobile subscriber terminal also adjusts its transmission time (with respect to the marked point maintained by the microport) by the amount indicated in the acknowledgement so that all transmissions are synchronized. If no acknowledgement is received within time out the mobile retransmits the preamble and header.

After the end of the information and data, the mobile subscriber terminal sends an end of packet flag, which is also spread by the orthogonal and PN codes. The assigned orthogonal code is released, making that unique code available for reuse.

END

Fig. 5a

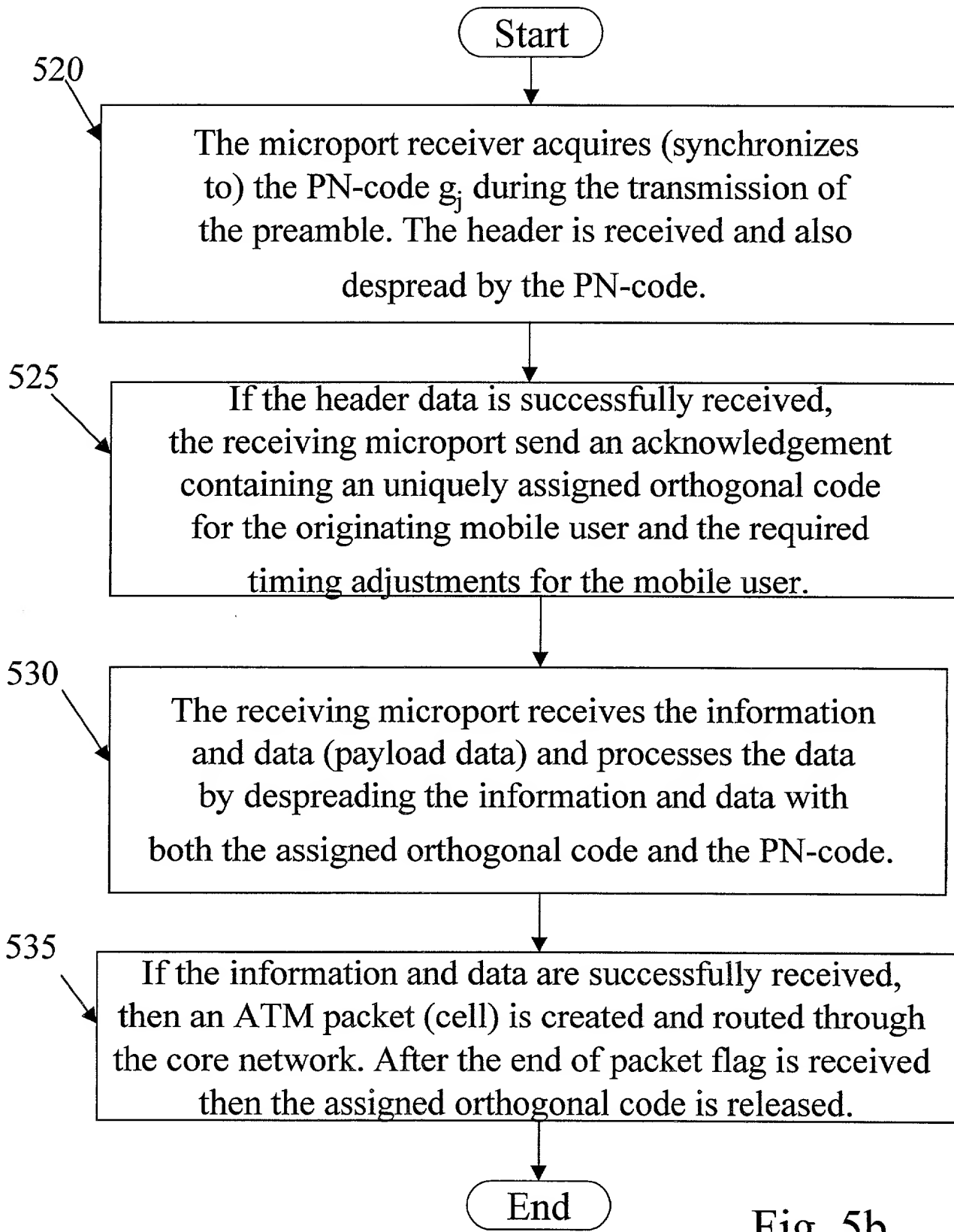


Fig. 5b

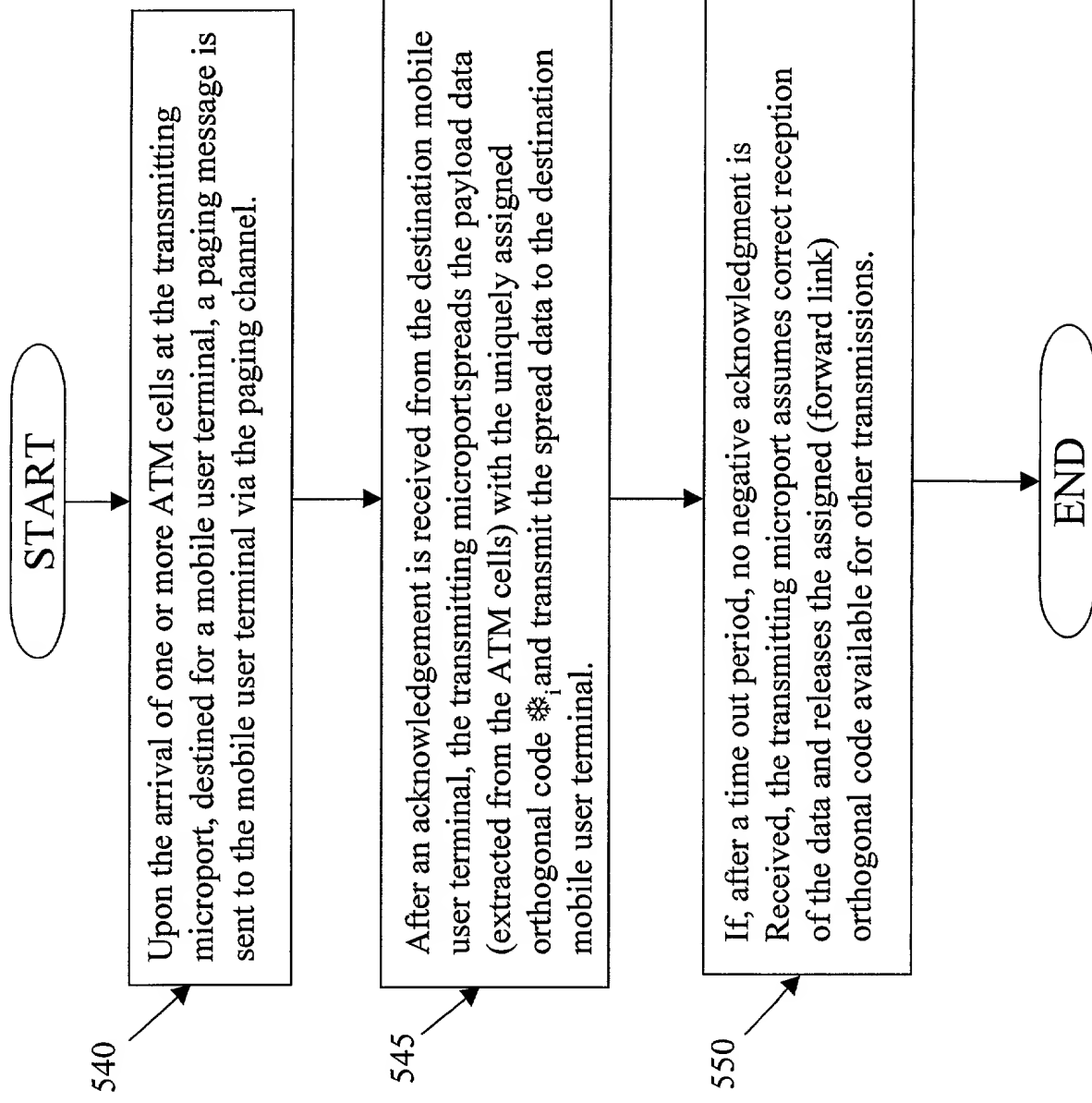


Fig. 5c

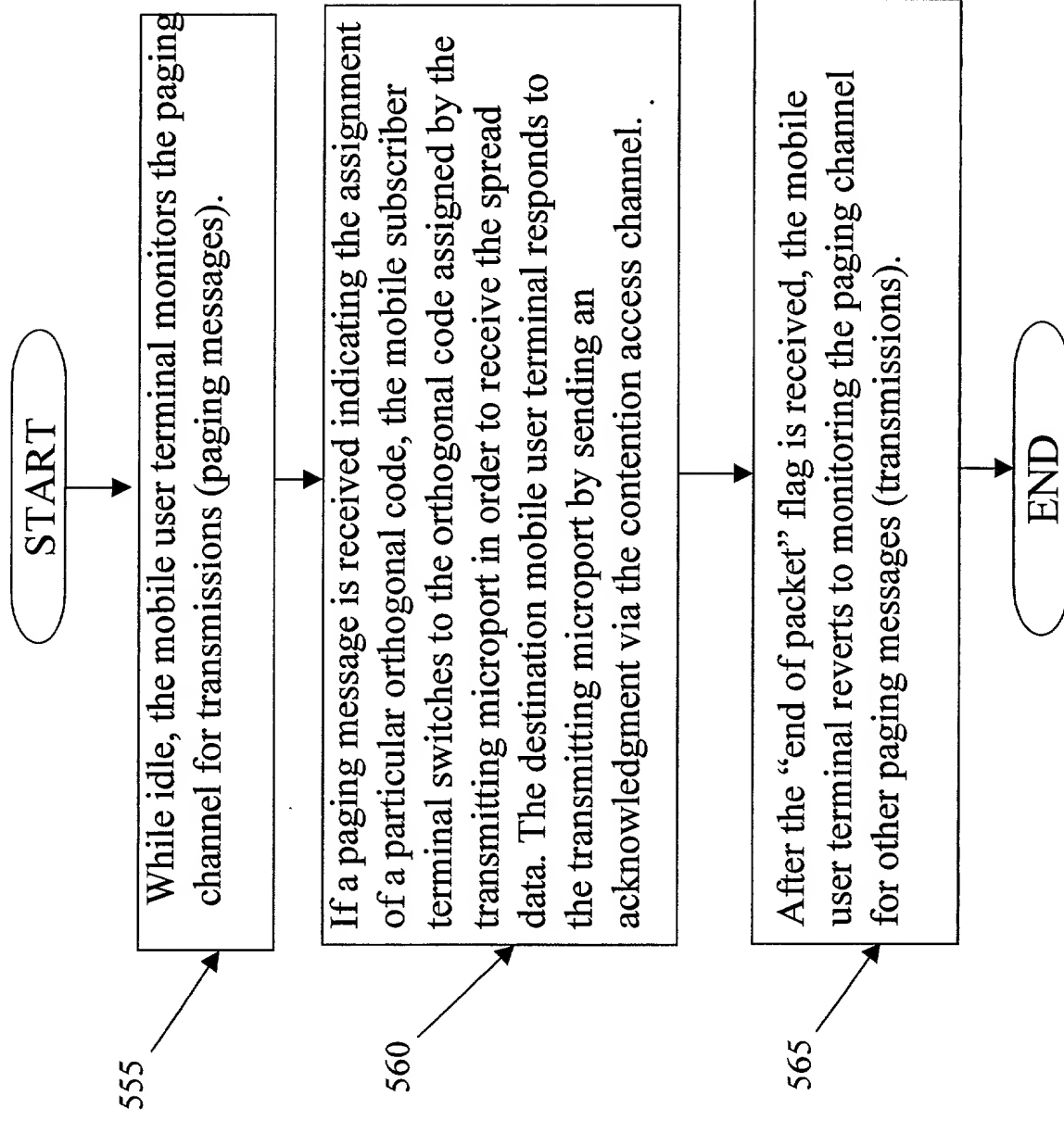


Fig.5d

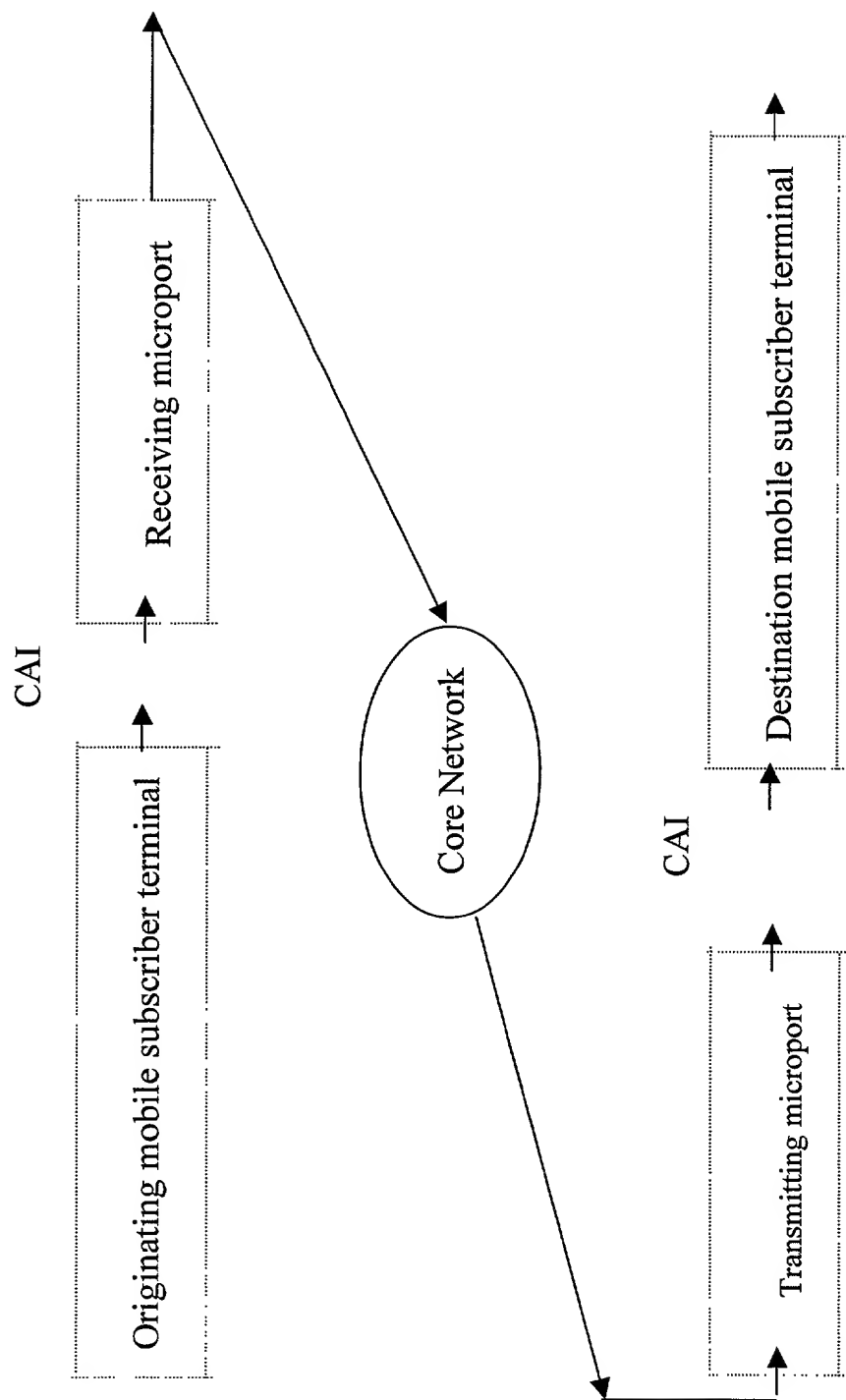


Fig. 6

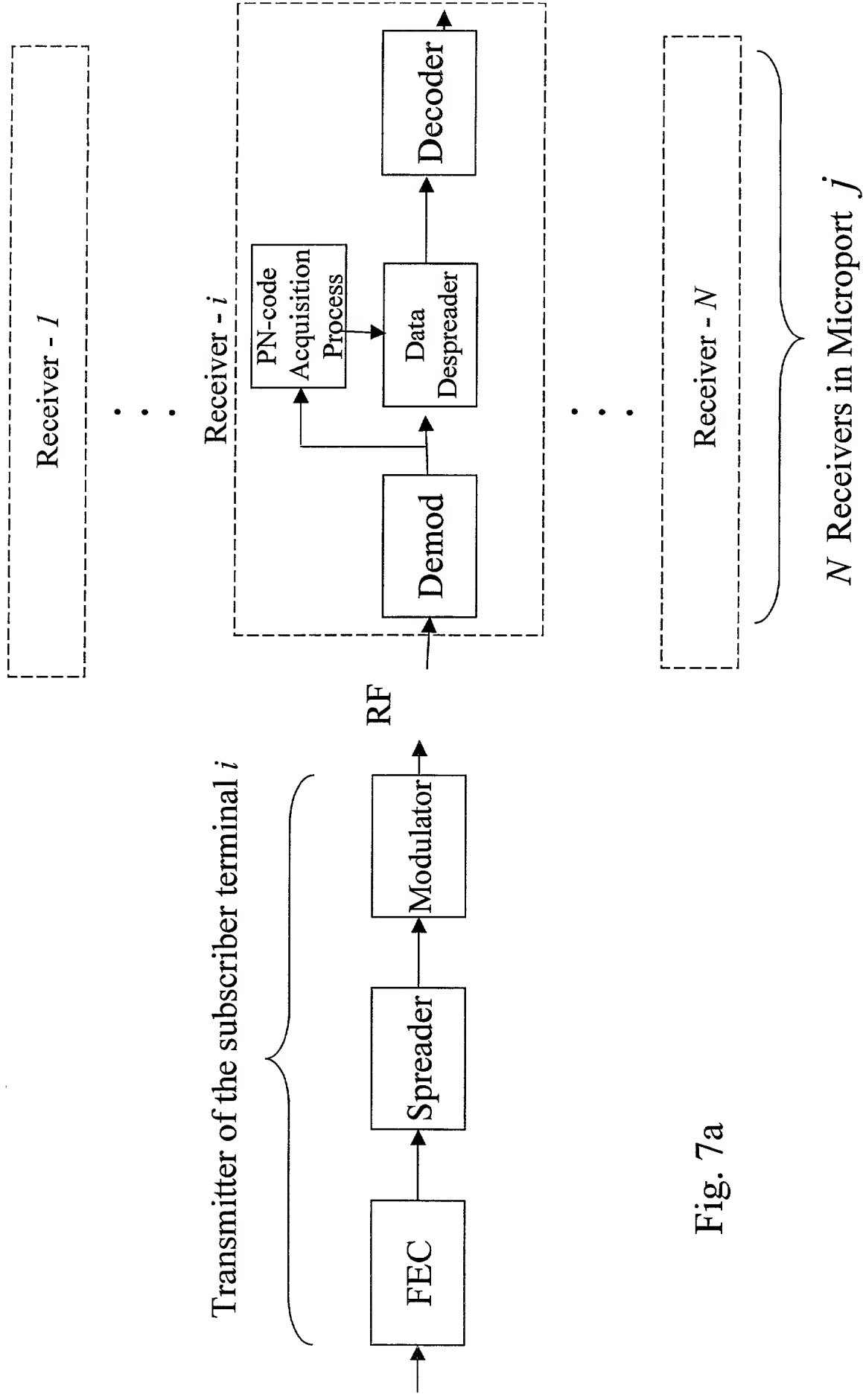


Fig. 7a

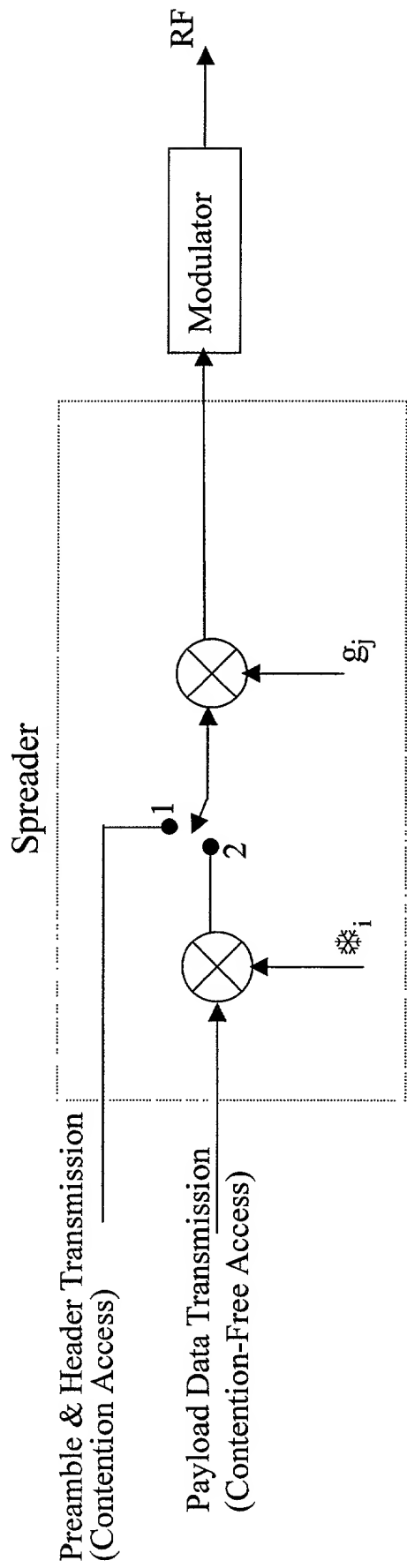


Fig. 7b

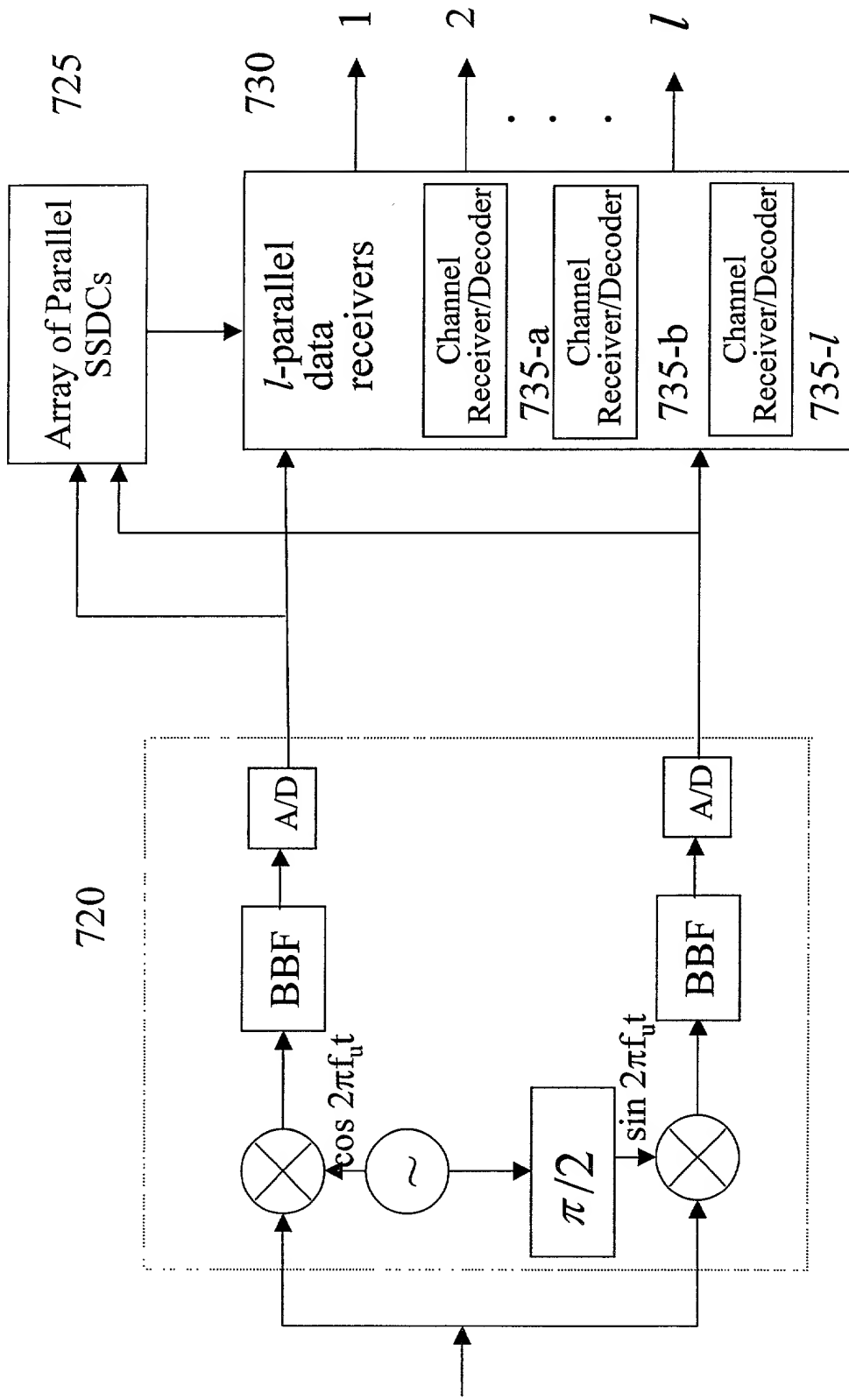


Fig. 7c

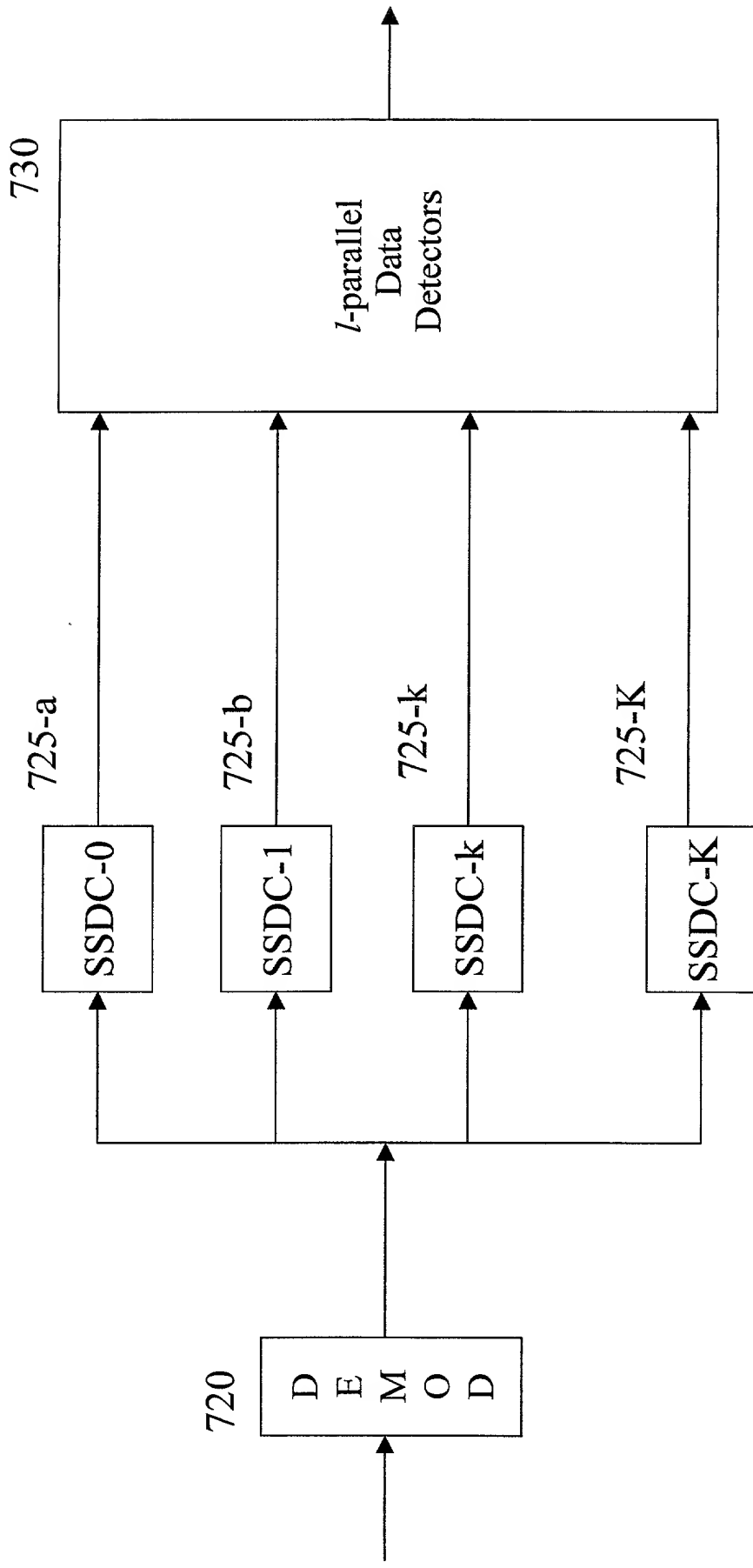
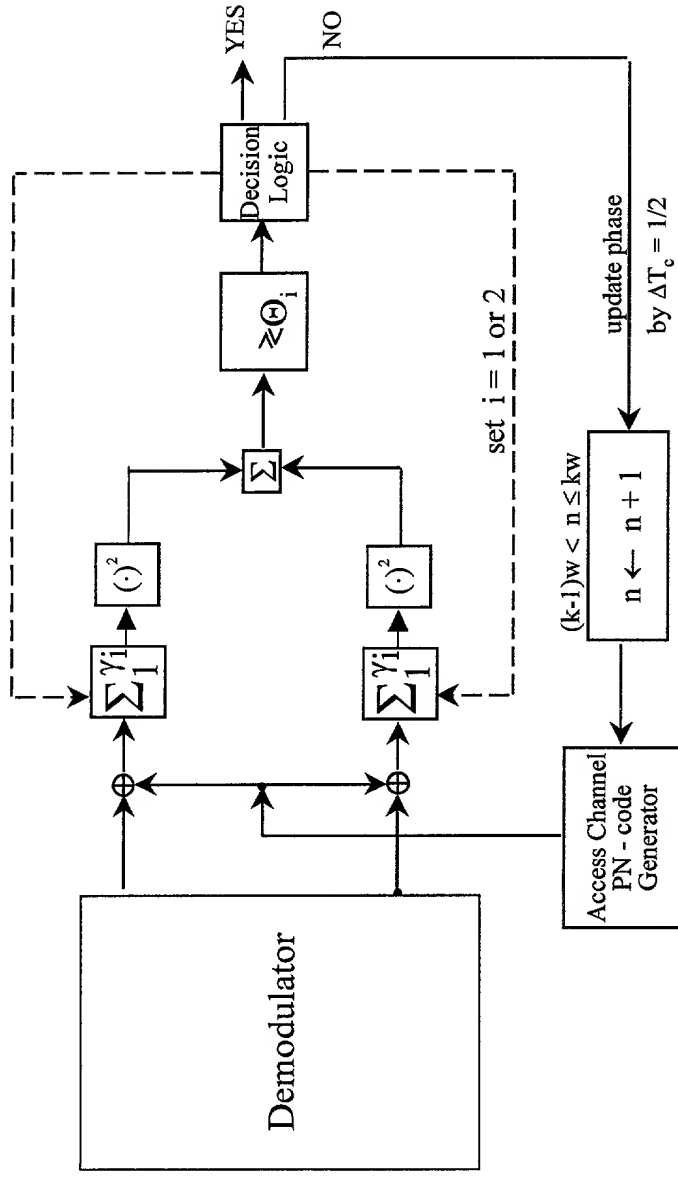


Fig. 7d

A.



B.

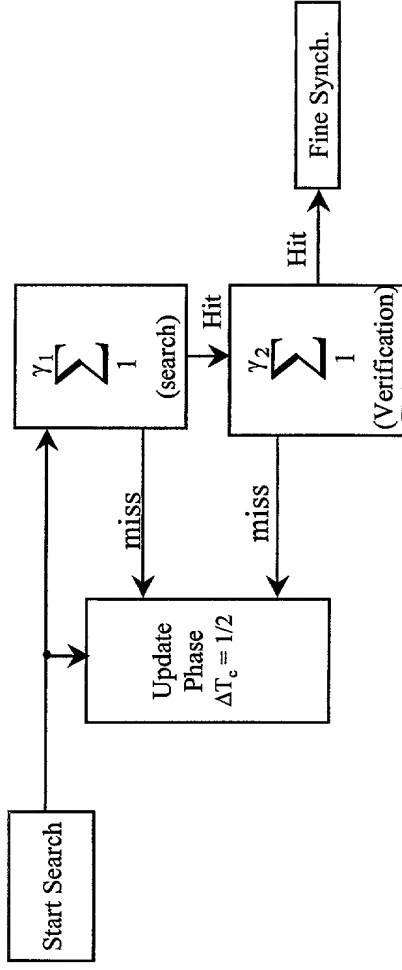


Figure 7e

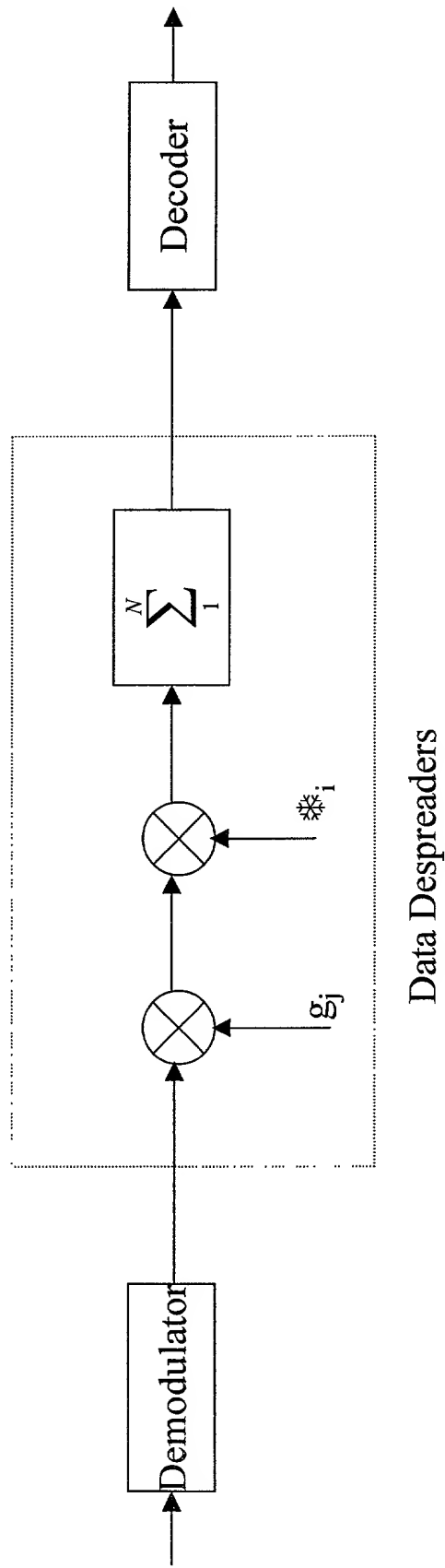


Fig. 7f

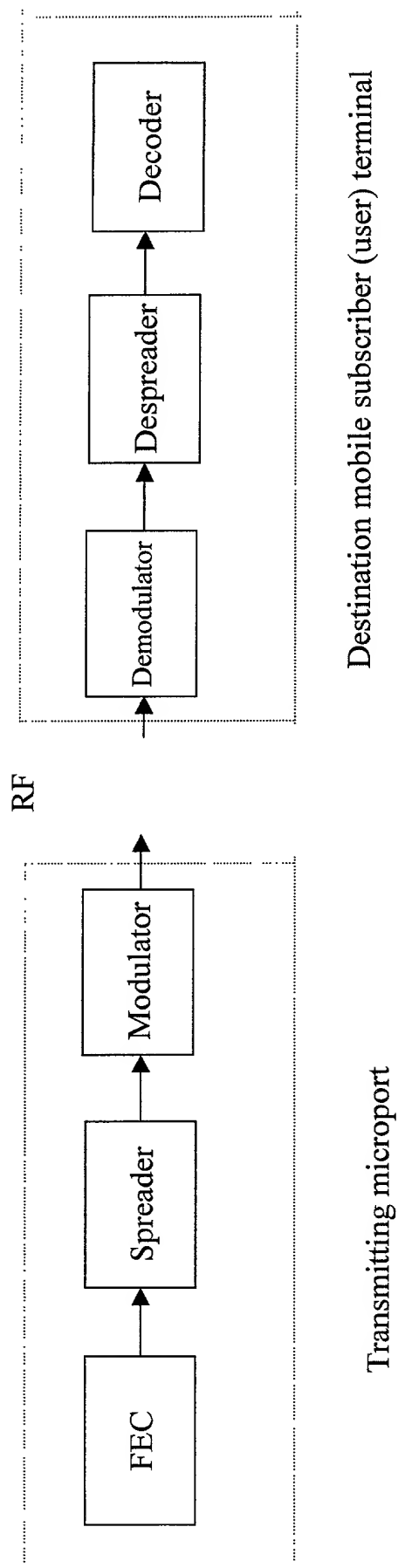


Fig. 8a

This figure is a schematic diagram of a multi-channel system. It shows three input channels labeled "Channel - 1", "Channel - j", and "Channel - N". Each channel has an input signal entering a multiplier (a circle with an 'X'). The multiplier for Channel - 1 is also labeled w_1 , the multiplier for Channel - j is labeled w_j , and the multiplier for Channel - N is labeled w_N . The outputs of these multipliers are connected to a central summation block (a triangle with a Σ symbol). The output of the summation block is connected to a final multiplier (a circle with an 'X'), which is also labeled w_j . The output of this final multiplier is an arrow pointing to the right.

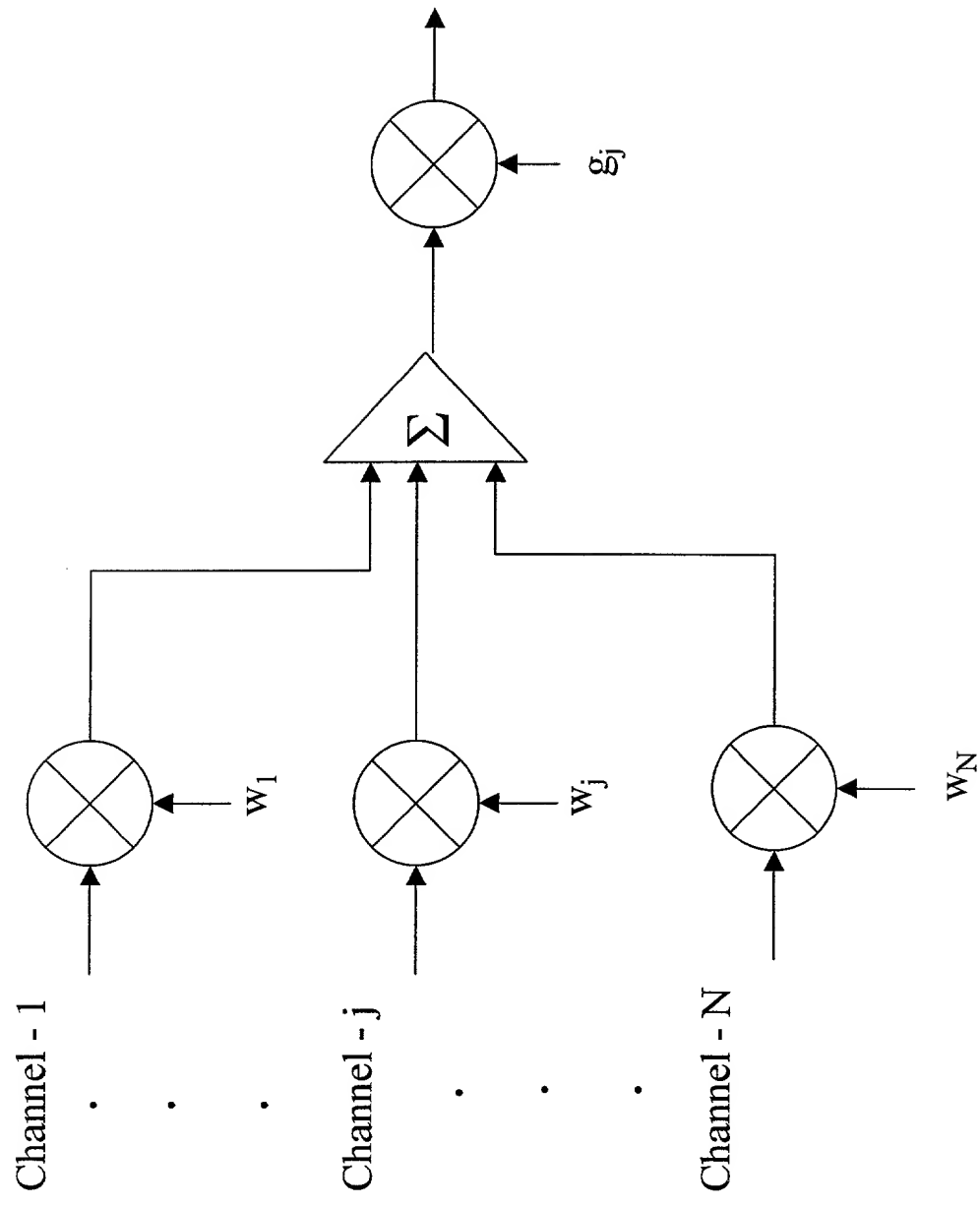


Fig. 8b

Data Despreader

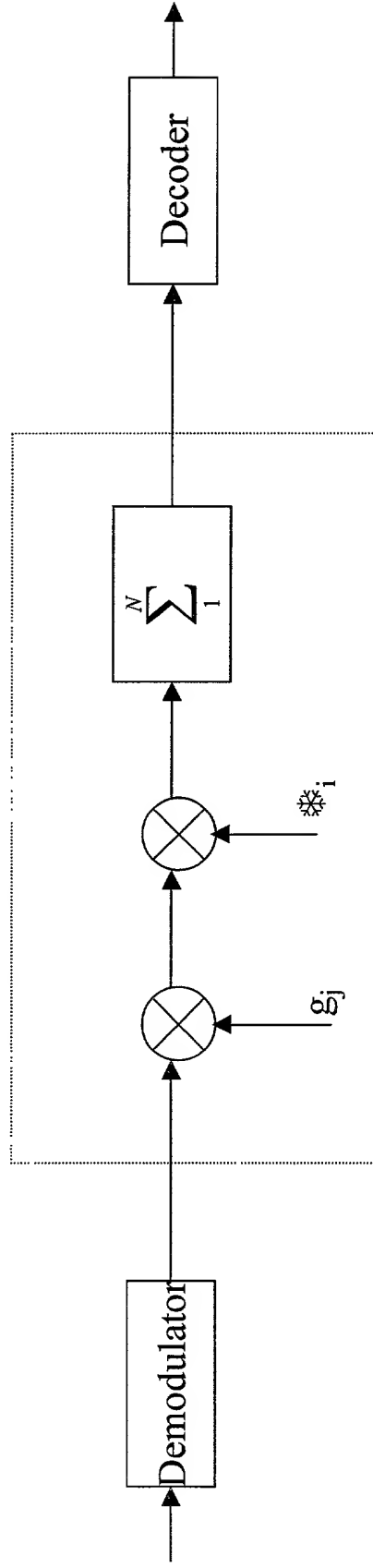


Fig. 8c